

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

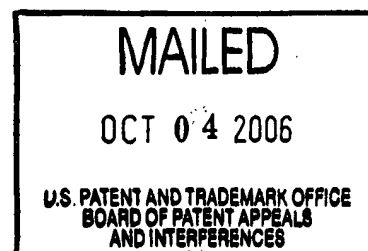
## UNITED STATES PATENT AND TRADEMARK OFFICE

### BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

*Ex parte* Brain Unitt, Michael Grant, Jeffrey Farrington, and David Phillips

Appeal No. 2006-1337  
Application No. 09/584,330

ON BRIEF



Before JERRY SMITH, BARRY, and SAADAT, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

#### DECISION ON APPEAL

A patent examiner rejected claims 1-4, 6, 8-10, 12, and 14-20. The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm-in-part.

#### I. BACKGROUND

The invention at issue on appeal concerns passive optical networks ("PONs") that comprise a head-end station and subscriber stations. Because the stations thereof share a transmission medium, a method of controlling the stations' transmissions onto that medium is necessary to avoid collisions. (Supp. Appeal Br.<sup>1</sup> at 2.)

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<sup>1</sup>We rely on and refer to the Supplemental Appeal Brief in lieu of the original Appeal Brief, because the latter was defective. (Order Returning Undocketed Appeal to Examiner.) The original appeal brief was not considered in deciding this appeal. Similarly, we rely on and refer to the Supplemental Reply Brief in lieu of the original

Accordingly, the subscriber stations of the appellants' PON transmit on a common optical frequency distinct from that on which its head-end station transmits. Because that PON provides optical connectivity from each subscriber to the other subscribers, without optical connectivity from each subscriber back to itself, each subscriber detects whether another subscriber is transmitting on the common frequency. More specifically, any transmission received by a subscriber on the common frequency during the subscriber's own transmission indicates that a collision has occurred. (*Id.* at 3.)

A further understanding of the invention can be achieved by reading the following claims.

1. A passive optical network arrangement comprising:

a head-end station;

at least one subscriber station;

a passive optical network providing optical connectivity from each of said stations to each other station, but no optical connectivity from each of said stations back to itself;

wherein said subscriber stations are arranged to transmit on a common optical frequency distinct from that on which said head-end station is arranged to transmit, and each of said subscriber stations is

arranged to detect when another of said subscriber stations is transmitting on said common optical frequency over said passive optical network.

17. A method of operating a passive optical network arrangement comprising:

a head-end station;

at least one subscriber station;

a passive optical network providing optical connectivity from each of said stations to each other station;

comprising the steps of:

at least on [sic] of the subscriber station transmitting on an optical frequency common to the subscriber stations and distinct from that on which said head-end station is arranged to transmit;

at least one of the subscriber stations detecting when another of said subscriber stations is transmitting over said passive optical network by detecting any non-zero signals on said common optical frequency.

Claims 1-4, 6, 8-10, 12, 14, and 16-18 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,493,335 ("Darcie"); U.S. Patent No. 5,282,257 ("Ota '527"); and U.S. Patent No. 5,915,054 ("Ota '054"). Claim 15 stands rejected under § 103(a) as obvious over Darcie; Ota '054; Ota '257; and U.S. Patent No. 4,701,909 ("Kavehrad"). Claims 19 and 20 stand rejected under § 103(a) as obvious over Darcie; Ota '054; Ota '257; and U.S. Patent No. 5,109,448 ("Codan").

## II. OPINION

We begin with an observation about the language of two of the independent claims. A claim is indefinite "where the language 'said lever' appears in a dependent claim where no such 'lever' has been previously recited in a parent claim to that dependent claim . . . ." *Ex parte Moelands*, 3 USPQ2d 1474, 1476 (Bd. Pat. App. & Int. 1987).

Here, the limitation "each of said stations" (emphasis added) in claims 1 and 17 appears to lack antecedent basis because only "one subscriber station" had been previously recited in each of the independent claims. In an *ex parte* appeal, however, "the Board is basically a board of review — we review . . . rejections made by patent examiners." *Ex parte Gambogi*, 62 USPQ2d 1209, 1211 (Bd.Pat.App. & Int. 2001). Because there is no rejection for indefiniteness before us, we leave the matter to the examiner and the appellants. That said, we address the claims in the following order:

- claims 1-4, 6, 8, 9, 19 and 20
- claims 10, 12, and 14-18.

### A. CLAIMS 1-4, 6, 8, 9, 19 AND 20

"Rather than reiterate the positions of the examiner or the appellants *in toto*, we focus on a point of contention therebetween." *Ex parte SieneI*, No. 2005-2429, 2006 WL 1665423, at \*1 (Bd.Pat.App & Int. 2006). Admitting that "[t]he [only] difference

between Darcie et al. and the claimed invention is that the loop back arrangement of Darcie et al. provides connectivity from each subscriber back to itself," (Examiner's Answer<sup>2</sup> at 4), the examiner makes the following assertion.

[I]t would have been obvious to one of ordinary skill in the art at the time the invention was made to use a coupler that provides no optical connectivity from an input port to its corresponding output port and use a simple light detector for collision detection, as taught by Ota, in the access network of Darcie et al. because the coupler of Ota '257 simplifies the collision detection circuit and makes the detection reliable.

(*Id.*) The appellants argue that although Darcie relates to a directional network topology "hav[ing] a central office or head-end station and a plurality of end users or subscriber stations. Ota '054 and Ota '257, however, do not relate to such directed topology networks." (Supp. Appeal Br. at 7.)

"In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the independent claim at issue to determine its scope. Second, we determine whether the construed claim would have been obvious." *Ex parte Sehr*, No. 2003-2165, 2005 WL 191041, at \*3 (Bd.Pat.App & Int. 2004).

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<sup>2</sup>We rely on and refer to the substitute Examiner's Answer in lieu of the original Examiner's Answer, because the former vacated the latter. (Sub. Examiner's Answer at 1.)

### *1. Claim Construction*

"Analysis begins with a key legal question — *what is the invention claimed?*" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). Here, claim 1 recites in pertinent part the following limitations: "a passive optical network providing optical connectivity from each of said stations to each other station, but **no optical connectivity from each of said stations back to itself. . . .**" (Emphasis added.) In summary, the independent claim precludes optical connectivity from a subscriber station back to itself.

### *2. Obviousness Determination*

"Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious." *Ex Parte Massingill*, No. 2003-0506, 2004 WL 1646421, at \*3 (Bd.Pat.App & Int. 2004). "In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). In particular, "[w]hen determining the patentability of a claimed invention which combines two known elements, 'the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" *In re Beattie*, 974 F.2d 1309, 1311-12, 24

USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)).

Here, the examiner asserts that it would have been obvious to have used the coupler of Ota '257 in the access network of Darcie because "the coupler of Ota '257 simplifies the collision detection circuit and makes the detection reliable," (Sub. Examiner's Answer at 4), as aforementioned. For its part, Ota '257 explains that its optical coupler is meant to be used in "a network in which separate terminals are provided for transmission and reception at each node and all the nodes are distributed by a star coupler. . . . See, e.g., G. Rawson, IEEE Transactions on Communications, Vol. COM-26, No. 7, July 1978, 'Fibernet: Multimode Optical Fibers for Local Computer Networks.'" (Col. 1, ll. 30-35.) Ota '054 identifies the following problem and difficulty that plague such a network.

[T]he star coupler, when receiving a signal from a node, sends it also to the receiving port of the same node. Accordingly, a feedback loop is formed between the star couplers interconnected. If a relay amplifier is located between the star couplers, an oscillation occurs. When the star coupler is used, the number of nodes that can be connected to the network is limited to the number of terminals of one star coupler.

As described above, the signal transmitted from a node is distributed to the receiving port of the same node. This makes it difficult to detect the collision. That is, since the distribution ratios of actual passive star

couplers are not uniform, it is difficult to apply the level-difference detecting method for the collision detection.

(Col. 2, ll. 16-30.)

Turning to Darcie, it is uncontested that the PON shown in Figure 14B lacks any star coupler. Absent such a star coupler, we are uncertain that latter reference's PON would suffer the "problem that the number of nodes that can be connected to the network is limited," (Ota '054, col. 3, ll. 4-5), or the "difficult[y] [of] apply[ing] the level-difference detecting method for the collision detection." (*Id.* at col. 2, ll. 29-30.) Without such a problem or difficulty to solve, we are unpersuaded of the desirability of using the coupler of Ota '257 in the access network of Darcie. Therefore, we reverse the rejection of claim 1 and of claims 2-4, 6, 8, and 9, which depend therefrom.

The examiner does not allege, let alone show, that the addition of Coden cures the aforementioned deficiency of Darcie, Ota '054, and Ota '257. Therefore, we also reverse the rejection of claims 19 and 20, which also depend from claim 1.

#### B. CLAIMS 10, 12, AND 14-18

"When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that



are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately." 37 C.F.R. § 41.37(c)(1)(vii) (Sep. 30, 2004).

Here, the appellants argue claims 10, 12, 14, and 16-18, which are subject to the same ground of rejection, as a group. (Supp. Appeal Br. at 4-8.) We select claim 17 as the sole claim on which to decide the appeal of the group. With this representation in mind, we focus on the point of contention between the examiner and the appellants.

The examiner makes the following findings.

Darcie et al. discloses in FIG. 14B a passive optical network (PON). FIG. 14B comprises a head-end station (CO) 10, a plurality of subscriber stations EU20 (only one is shown in the diagram) and passive optical splitters 15a and 15b for providing connectivity for the stations. FIG. 14B also shows a common optical wavelength  $\lambda_1$  for subscribers to send upstream data. Each station comprises receiver (RCV) for detecting when another subscriber station is transmitting. The subscribers receive broadcast data on  $\lambda_2$ .

(Sub. Examiner's Answer at 3-4.) The appellants make the following argument.

In this PON related embodiment of Darcie, it is a mandatory requirement that each end user station receives back the data it transmits upstream (i.e. towards the head-end station) as a traffic information signal (TIS). Collision detection is performed by the end user station comparing the

signal it transmits upstream with the received TIS. Thus, it is clear that the relevant embodiment of Darcie (and indeed all embodiments of Darcie) teaches away from the claimed feature of the present invention that the PON is arranged to provide no optical connectivity from each of said stations back to itself.

(Supp. Appeal Br. at 6.)

"In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the representative claim at issue to determine its scope. Second, we determine whether the construed claim would have been obvious." *Ex Parte Massingill*, No. 2003-0506, 2004 WL 1646421, at \*2 (Bd.Pat.App & Int. 2004).

### *1. Claim Construction*

"[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324, 72 USPQ2d 1209, 1211 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)).

Here, claim 17 recites in pertinent part the following limitations: "a passive optical network providing optical connectivity from each of said stations to each other station. .

..." In contrast to claim 1, the representative claim does not preclude optical connectivity from a subscriber station back to itself.

## 2. Obviousness Determination

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently. . . ." *In re Zurko*, 258 F.3d 1379, 1383, 59 USPQ2d 1693, 1696 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966); *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995)). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, the examiner has found, *supra*, that Darcie discloses the actual limitations of claim 10. Because the appellants' argument addresses a feature not found therein, it is unpersuasive. Therefore, we affirm the rejection of claim 17 and of claims 10, 12, 14, 16, and 18, which fall therewith.

Regarding claim 15, the appellants rely on their aforementioned argument. (Supp. Appeal Br. at 9.) Unpersuaded by that argument, we also affirm the rejection of claim 15.

### III. CONCLUSION

In summary, the rejections of claims 1-4, 6, 8, 9, 19 and 20 under § 103(a) are reversed. The rejections of claims 10, 12, and 14-18 under § 103(a), however, are affirmed.

"Any arguments or authorities not included in the brief or a reply brief filed pursuant to [37 C.F.R.] § 41.41 will be refused consideration by the Board, unless good cause is shown." 37 C.F.R. § 41.37(c)(1)(vii). Accordingly, our affirmance is based only on the arguments made in the briefs. Any arguments or authorities omitted therefrom are neither before us nor at issue but are considered waived. *Cf. In re Watts*, 354 F.3d 1362, 1367, 69 USPQ2d 1453, 1457 (Fed. Cir. 2004) ("[I]t is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.") No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

JERRY SMITH  
Administrative Patent Judge

~~LANCE LEONARD BARRY~~  
~~Administrative Patent Judge~~

BOARD OF PATENT  
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